



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,043	08/07/2003	Adam I. Pinard	10001-008002	9974
7590	02/23/2005		EXAMINER	
Kristofer E. Elbing 187 Pelham Island Road Wayland, MA 01778			BINDA, GREGORY JOHN	
			ART UNIT	PAPER NUMBER
			3679	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/636,043

Applicant(s)

PINARD ET AL.

Examiner

Greg Binda

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/25/03, 12/5/03</u> . | 6) <input type="checkbox"/> Other: ____  |

*Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.83(a) because the drawings fail to show the claimed invention. The drawings fail to show the following features of the claimed invention:

- a. Claim 1, line 4 and claim 4, line 4: “a lead screw nut mounted to the mounting site of the first member”
- b. Claim 1, line 8: “a third member including a mounting site”
- c. Claims 2 & 5: “a lead screw engaged with the lead screw nut”

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

3. The disclosure is objected to because:

- a. On page 1, the current status of the parent application needs to be included.
- b. Page 5, line 21, the word “tapped” is misspelled.
- c. Page 6, lines 7 & 8 states that the third pair of articulations is “preferably offset from the third pair”. It is not clear what that means.
- d. Page 6, line 19, the “flexures” are not identified by reference numeral(s).
- e. Page 8, line 17, mentions a “z direction” but a lower case “z” does not appear in the drawings.
- f. Page 8, line 20 mentions an “x direction” but a lower case “x” does not appear in the drawings.
- g. Page 8, line 20 mentions a “y direction” but in Fig. 4, the letter “y” indicates a measure of length, not a direction.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The detailed description does not describe features corresponding to the following limitations:

- a. Claim 3: all limitations therein
- b. Claim 4, lines 1 & 2: all limitations therein

*Claim Objections*

5. Claim 3 is objected to because the first, second and third members are recited as “tubular” but on page 6, line 16 they are described as being made from a solid (i.e. not tubular) cylindrical member.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shelley, US 3,420,582. Fig. 2 shows a lead screw coupling 24 comprising: a first member 2 including a mounting site 56; a lead screw nut (“threaded fastener” at col. 2, line 52) mounted to the mounting site of the first member; a second member 6; a first universal joint 19 operatively connected between the first and second members; a third member 4 including a mounting site 56 (see also Fig. 4) for coupling to a movable printer carriage; and a second universal joint 21 operatively connected between the second and third members, wherein the second universal joint includes a plurality of flexures and wherein each of the first, second and third members can move relative to each other. In col. 2, lines 52 & 53 Shelley discloses a lead screw (see “system”) engaged with the lead screw nut. Figs. 2 & 4 show that the first, second and third members 2, 6, 5 are at least generally tubular.

Art Unit: 3679

8. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Hellen et al, US 3,597,938 (Hellen). Figs. 4 & 5 show a coupling 30 comprising three members separated by two universal joints 32 & 34 and 36 & 38 cut from a tubular member 30. In col. 1, line 6, (see "two members"), Hellen discloses that the coupling comprises a lead screw and a nut.

9. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Linley, Jr., US 4,434,677. Fig. 3 shows a coupling comprising a first member 18, a second member 16, and a third member 14 all part of a single tubular piece. The members 18, 16, 14 all separated by two universal joints 26, 28, 30 & 32. Fig. 2 shows the coupling combined with a lead screw nut 46, 50 and a lead screw 24.

10. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by any one of the CREO references submitted in the information disclosure statement filed December 5, 2003.

*Claim Rejections - 35 U.S.C. § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3679

12. Claims 4 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hellen. In Figs. 4 & 5 Hellen shows an apparatus comprising all the limitations of the claims except two additional members and two additional pairs of articulations. However, it would have been obvious to modify the apparatus of Hellen by including two additional members and two additional pairs of articulations since such a modification would have involved a mere duplication of parts. The duplication of parts for a multiplied effect has no patentable significance and is considered well within the purview and obvious to one of ordinary skill in the art. *St. Regis Paper Co. v. Bemis Co., Inc.* 193 USPQ 8, 11 (7th Cir. 1977).

13. Claims 4 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shelley for the same reason immediately noted above.

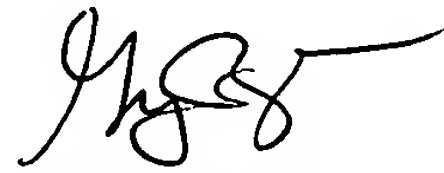
#### *Conclusion*

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (703) 308-2686. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3679

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Binda  
Primary Examiner  
Art Unit 3679